

## **14.2-FA2 Management System Display to Track Emergency Response Vehicles and Mutual Aid During a Crash Response**

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### **Description:**

Disaster response at airports involves integration of airport fire rescue with emergency personnel and equipment from the surrounding community. The current response model is built upon the concept of mutual aid. As such, airport command authorities face the task of coordinating and tracking multiple disparate fire rescue units and personnel. Technology could provide an integrated command and control tracking and reporting system designed specifically for the airport incident commander and command authority.

The purpose of this research is to develop a command and control management information prototype for use at airports during crash or disaster responses that aids in facilitating intelligent, coordinated airport and mutual-aid response. A successful outcome shall include the following: Provide real-time situational awareness to airport command authorities through the use of technology that provides a disaster response command and control management information system in a **portable device**, possibly linked to other devices and/or airport systems. Consider integrating Global Positioning System (GPS) or Radio Frequency Identification (RFID) technology to track airport fire rescue vehicles, as well as mutual aid vehicles and personnel during an airport crash or disaster. Consider integration of data available from existing patient and/or victim tracking systems to follow

patients in collection, triage, treatment, and transport.

The prototype shall: Integrate pull-down menus that allow command authorities to track aircraft rescue firefighting vehicles (airport and mutual aid) deployed and available, their location, their crew structure, and their current capabilities and capacities. Provide access to existing airport emergency plan documents, mutual-aid agreements, letters of agreement (LOA), and other pertinent emergency response or air traffic plans. Provide command authorities updated airport and air-traffic status (runway status and condition, heliport status etc.) affecting emergency response. Provide the ability to track communications channel use and current status, both mutual aid and airport specific. Provide the ability for command authorities to track and/or input data related to existing hazardous materials, either on the aircraft, or in the vicinity, that may affect the rescue and fire response. Provide the ability for the incident commander and the emergency operations center to track available fire agent and water status, both at the airport or available to the airport through mutual aid. If appropriate to the situation, provide the ability to track water rescue efforts to include tracking of water rescue vehicles available, their status, communications capabilities, and findings during deployment.

Display information and figures in a management ready format in a portable display for command authorities to use in directing the fire attack and victim recovery efforts. Provide for collaboration and sharing of data between incident command and airport emergency operations center staff, to include the provision of template reports and status forms that could be revised by individual airports/EOC authorities to fit local needs.

To be effective the prototype should:

- Be portable and low cost.
- Be adaptable to a variety of airports.
- Address airport specific emergency response.

**Expected Phase I Outcomes:**

Provide a detailed concept that demonstrates the capabilities of a prototype command and control management information system for airport disaster response use.

**Expected Phase II Outcomes:**

Identify or develop a product that addresses the command and control needs and requirements listed above.

Field test product(s) to determine viability of use in real world situations.